

# REVIEWS OF BOOKS

## POPULATION

**United Nations.** *World Population Prospects, as Assessed in 1963.* Population Studies No. 41. New York, 1966. U.N. Pp. vii + 149. Price \$2.00.

PROJECTIONS OF FUTURE world populations have been made by the Population Division of the United Nations Organization on four occasions. The results may be simply illustrated by reference to the range of possible figures for the year 1980 (world population in thousand millions):

1951 projection	: 3-0-3-6
1954 projection	: 3-3-4-0
1958 projection	: 3-9-4-3
1963 projection	: 4-1-4-6

It will be seen that on each successive occasion the assessment has been raised by roughly 10 per cent. Effectively, future prospects have been increasing at some 2 per cent per annum—just about as fast as world population itself.

This development in the expectations is probably the reflection of the increase in the rate of population growth recently. Probably also it is attributable to the improved data that have been collected. The method of calculation may also have contributed something to the increase; it has certainly been applied in much more detail than the previous assessments. While an extension of the amount of work undertaken does not guarantee that the results will be more reliable—the general approach to the calculations and the basic assumptions made are vastly more significant—the general impression to be gained from reading the new report is one of greater confidence than before, arising from improved technique.

It is interesting to note that this report was issued for limited circulation three years ago, to enable demographic experts all over the world to comment and suggest changes. In the event, the estimates of projected population have been altered but little as a result of these consultations, but the manner in which the report is presented appears to have been improved. The new text is sharper and it is easier to find the figures one is looking for than it was in the draft.

Ease of reference is important, as this work is likely to provide a standard for some while to come. Indeed, its only rival appears to be the rough shot offered by Professor Boyarsky at the World Population Conference in Belgrade in 1965. The Professor's view is that world population will rise a good deal less fast than is expected by the Population Division of the United Nations. While the Russian's basic assumptions do not appear so reasonable as those emanating from New York, the extent of the difference, and indeed the marked way in which the United Nations assessments themselves have varied, emphasize that great caution should be the watchword in interpreting the findings of hazardous exercises such as this.

P. R. C.

**Agarwala, S. N.** *Some Problems of India's Population.* Bombay, 1966. Vora. Pp. iii + 151 + 2. Price Rs. 10.

IN THIS BOOK the author discusses the demographic situation in the country and analyses the social factors which have influenced fertility.

The population in India has increased from 238 million (the 1901 Census) to 439 million according to the 1961 Census. A study of the growth of population in various states of

India shows that in the sixty years of this century population has grown most in Assam (220 per cent) and least in Uttar Pradesh (52 per cent). But we have very limited knowledge of the factors which may have contributed to differential population growth in various states. The percentage of urban population in the country has increased very slowly, the urban population being 11 per cent in 1901 and 18 per cent in 1961.

The ratio of females to males is declining over the years: whereas the number of females per 1,000 males was 946 in 1951, it declined to 941 in 1961. This shows that, demographically, India has not entered the modern industrial age with its complementary characteristics of increased risk to male lives and reduced risk to female lives.

Illiteracy is being improved slowly, particularly in the rural areas. Adult education does not seem to have made much of an impact there. According to 1961 Census, 66 per cent of males and 90 per cent of females aged five and over in the rural areas, and 34 per cent of males and 60 per cent of females aged five and over in urban areas were illiterate.

India continues to be a peasant economy, the primary sector dominates and the secondary and tertiary sectors are small. In 1961, 68 per cent male workers were employed in the primary sector, 13 per cent in the secondary sector and 19 per cent in the tertiary sector.

Up to the Census of 1951, no specific questions were asked for estimating the extent and pattern of internal migration and its estimates have been made from census data on age, place of birth and place of enumeration. The extent of net rural-urban migration has not been great in this century; the figure for 1951-61 decade is estimated as 5.2 million. In the 1961 Census additional information on the subject has been collected and it would now be possible to do a more detailed and accurate analysis of internal migration not only between rural and urban areas and between states, but also between districts in each state and within a district in each state.

The system of marriage registration being non-existent in India, the time trend in age at marriage has been studied from data from decennial censuses on marital status by age, after making appropriate corrections for mis-statements. The results show that for females, the mean age at marriage of those married till age thirty-five in a no-mortality cohort, was 12.8 years in the 1891-1901 decade, 15.4 years in the 1941-51 decade and nearly 16 years, estimated provisionally, in the 1951-61 decade. For males, the mean age at marriage of those married till age fifty in a no-mortality cohort was 20.0 years in the 1891-1901 decade, 19.9 years in the 1941-51 decade, and nearly 22 years, estimated provisionally, in the 1951-61 decade.

With a decrease in the level of mortality and some increase in widow remarriage in the country, there has been an increase in the mean duration of fertile union which has been defined as the duration from a woman's effective marriage ceremony to her age at the time of widowhood, death or reaching the age of forty-five years. It has been estimated from the census data that the mean duration of fertile union was twenty years in the 1901-11 decade, 22.8 years in the 1921-31 decade and 25 years in the 1951-61 decade.

There are restrictions on remarriage of widows among high caste Hindus, though among many lower castes remarriage is allowed. Demographic surveys carried out in some villages in Delhi and in Western India indicate that about one-fourth to about two-fifths of the widows remarry; the chances of remarriage being high for young widows with no children.

The fertility is uncontrolled, and an average of six to seven children are born to a woman of completed fertility. No differences in fertility are found between urban and rural areas. In a sample census carried out in 1960-61 by the Registrar-General of India, it was found that about one-fifth of all births were of sixth or higher order. More than half of the total births took place between five to fourteen years of duration of marriage. So

fertility can be reduced only if birth control is started early—within the first few years of marriage.

The birth rate in India is continuing at a high level of about 42 per thousand population, while the death rate has come down to about 19 per thousand, resulting in a great increase in population. So far, family planning has been accepted by a very few couples, and there has been no reduction in the birth rate. Though there are about 15,000 family planning clinics in the country, of which about 12,000 are in the rural areas, the attendance is poor. The motivation for family limitation is low, and very intensive family planning education is needed to increase it.

The Government of India plans to intensify family planning efforts to reduce the birth rate by half in the shortest possible time. With every Five Year Plan, the money allocated for family planning has been increased: Rs. 6.5 million in the First Five Year Plan (1951-56), Rs. 49.5 million in the Second, Rs. 250 million in the Third (with a ceiling of Rs. 500 million) and Rs. 950 million in the Fourth Five Year Plan (1966-71). The earlier plans could not be implemented fully, as only 25 per cent of money allocated was spent during the First, and 30 per cent during the Second Plan.

With an unprecedented increase in population obstructing the implementation of programmes of economic development, family planning work must be treated as a national emergency programme. The author suggests that its success depends on the effective co-operation of Universities, demographic research organizations and workers in the Community development blocks for family planning educational talks to the villagers.

The book draws upon the existing census material, and also upon a large number of demographic surveys, some of which are not published, and makes a valuable contribution in throwing light on some of the important population problems facing the country to-day.

SAVITRI THAPAR

## GENETICS

**Sutton, H. Eldon.** *An Introduction to Human Genetics*. New York and London, 1965. Holt, Rinehart & Winston. Pp. x+262. Price 48s.

IT IS THE author's wish that this introduction should serve students in general rather than those following a particular discipline. To this end he has kept "nongenetic material" to a minimum, supplied a genetic text which should be acceptable to students of whatever following, and has left the instructor to supplement it with examples appropriate to each class.

Starting in classical style with a tribute to Mendel, Professor Sutton introduces the reader to such basic genetic terms as "dominant", "recessive" and "gene" in the context of their earliest usage. He can then show how original concepts are modified as the subject unfolds, avoiding the tedium of a list of definitions so early in the work as to be meaningless. The care in introducing new terms (in italics) is notable in this work, although occasional words or phrases are met before their meaning has been explained. For instance "chromosome" slips in on page 7, and on page 39 "identical twins" has to be defined sketchily in brackets since, unlike many textbooks on human genetics, the section on twins comes late in the text.

The chapters on cell division and chromosomes are illustrated with good uncluttered diagrams (a general feature of this book) and Chapter 5 on Human Chromosomal Abnormalities includes the main clinical features of the established syndromes. In discussing the possible offspring of a balanced 21/D translocation carrier, this author remembers all six possibilities, where often the tri-D and mono-D are left out. One point which is not made